

LAWRENCE LIVERMORE REPORT

A weekly collection of scientific and technological achievements from Lawrence Livermore National Laboratory: March 3-7, 2008.

Future scientists flex their brainpower at annual fair



Manika Paul explains her project, “Autonomous Robot,” to science fair judge Pamela Horning, the Lab’s deputy principal associate director in the Operations and Business Principal Directorate.

This week, 245 science-minded students in grades 7 through 12 gathered to show off their know-how and compete for cash and other prizes at the annual Tri-Valley Science and Engineering Fair. Now in its 12th year, the fair, sponsored by Lawrence Livermore National Laboratory, has attracted the best and brightest young minds in the community. The fair is open to students in the Livermore, Pleasanton, Dublin, Danville and San Ramon school districts as well as private schools within the area.

Each year the fair grows in popularity – more and more schools are making participation in the fair a requirement among their advanced classes. The opportunity to work with and be judged by scientists and engineers from LLNL as well as neighboring Sandia California laboratory also attracts the students.

Winners of senior sweepstakes go on to compete in the prestigious Intel International Science and Engineering Fair in May. Junior sweepstakes winner go on to compete in the California Science Fair.

For more, see https://newsline.llnl.gov/articles/2008/mar/03.07.08_TVSEF.php.

Centers of excellence to support Advanced Simulation and Computing



The Lab's Blue/Gene L supercomputer

The National Nuclear Security Administration announced five new centers of excellence, whose primary focus will be on the emerging computational field of predictive science. The five centers will support NNSA's Advanced Simulation and Computing program, which unites the high-performance computing expertise of Lawrence Livermore, Los Alamos and Sandia national laboratories.

The following five universities will receive \$17 million each over a five-year period: Stanford University, California Institute of Technology, University of Michigan, Purdue University and the University of Texas at Austin.

Since the cessation of underground nuclear testing, NNSA has used simulation and modeling tools and capabilities developed by the Advanced Simulation and Computing program to support assessment and certification of the nuclear weapons stockpile. Predictive science is the application of verified and validated computational simulations to predict the behavior of complex systems where routine experiments are not feasible.

For more information, see <http://www.sandia.gov/NNSA/ASC/univ/psaap.html>

LLNS continues to support local communities



LLNS recently presented a gift of \$25,000 to members of the Livermore Valley Joint Unified School District. From left are Tom McLaughlin, school board trustee; Anne White, trustee; Brenda Miller, district superintendent; Susan Houghton, director of LLNL's Public Affairs Office; Bill Morrison, trustee; Bill Dunlop, board president; and Kate Runyon, trustee.

In support of education in science and math, Lawrence Livermore National Security, LLC (LLNS) is awarding three gifts of \$25,000 to the Livermore and Tracy school districts, as well as California Mathematics, Engineering, Science Achievement. LLNS is the contract manager for Lawrence Livermore National Laboratory.

A \$25,000 check was presented earlier this week to the Livermore Valley Joint Unified School District. A second \$25,000 check will be present to the Tracy

Unified School District March 11. The donations, which come from the fee LLNS receives from the Department of Energy to manage LLNL, will be used for science, technology, engineering and math education.

To date, LLNS has contributed more than \$1.1 million to the community. In December LLNS matched \$1 million in donations to the Laboratory's HOME Campaign, an annual charitable drive that benefits more than 400 local nonprofit agencies. In addition, LLNS has awarded gifts of \$10,000 each to Livermore and Tracy performing arts and the Valley Children's Museum. Later this year LLNS will award an additional \$100,000 to select agencies through its LLNS Community Giving Program.

For more information, see <http://www.llnslc.com/communityGiving/llnsgift.asp>

NNSA honors Lab scientist for work with Russia



Rose Babcock

LLNL computer scientist Rose "Rusty" Babcock, was recently honored for her work in developing a national accounting system for nuclear materials in Russia. Babcock, who served as the project leader for the Federal Information System at Russia's Federal Atomic Energy Agency (Rosatom) for seven years, received a plaque Feb. 5 from the National Nuclear Security Administration.

Babcock was recognized for her role in helping "build a flexible and sustainable system and earning the respect of Russian counterparts."

For more information, see https://newsline.llnl.gov/articles/2008/mar/03.07.08_babcock.php

Lab sewer monitoring team wins state award



Sewer Monitoring Team members (from left) Henry Jones, Duane Rueppel, Karl Brunckhorst (rear), Allen Grayson (center), Jennifer Montgomery (rear), Crystal Foster and Bob Williams stand in front of some of the sewer monitoring complex facilities at the Lab.

Lawrence Livermore National Laboratory's Environmental Protection Department has won a "Facility of the Year" award from the California Water Environment Association's Pretreatment, Pollution Prevention and Stormwater committee.

The award was given for the Lab's sewer monitoring efforts. The City of Livermore's Water Resources Division nominated the Lab team for the award, which recognizes facilities or processes that exemplify excellence throughout the State of California.

The city nominated the Laboratory "in appreciation for its dedication to sewer monitoring and the maintenance of its extensive monitoring network facilities," and "vital role in protecting the Livermore Water Reclamation Plant and the community," said Lynna Grijalva, source control coordinator for the City of Livermore.

The Lab conducts sewer monitoring for its own site as well Sandia National Laboratories, California to ensure radionuclides, metals, flow and pH levels remain within regulated levels.

For more see https://newsline.llnl.gov/articles/2008/mar/03.07.08_monitoring.php

LLNL is managed by Lawrence Livermore National Security, LLC, for the U.S. Department of Energy's National Nuclear Security Administration.

LLNL applies and advances science and technology to help ensure national security and global stability. Through multi-disciplinary research and development, with particular expertise in high-energy-density physics, laser science, high-performance computing and science/engineering at the nanometer/subpicosecond scale, LLNL innovations improve security, meet energy and environmental needs and strengthen U.S. economic competitiveness. The Laboratory also partners with other research institutions, universities and industry to bring the full weight of the nation's science and technology community to bear on solving problems of national importance.

To send input to the Livermore Lab Report, send e-mail labreport@llnl.gov.